## 1.0 INTRODUCTION

Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS) is a comprehensive, learner centered higher education institution that serves its local and regional learners and their communities through high-quality and flexible education and training. It is aimed to develop student's employability skills to meet the needs of a more dynamic economy, which values innovation and productivity. Programmes include a global perspective that will enable graduates to make a valuable contribution to the wider society as it changes in response to regional and international competition and demand.

POLIMAS programmes include a variety of Outcome-Based Education teaching approaches, adding value to POLIMAS teaching and learning which cater to students seeking a quality polytechnic education and training.

The POLIMAS Programme Handbook provides students with information on many facets of college life such as policies, procedures, and services. It is written for every student enrolled in one or more courses at POLIMAS.

This Handbook is aimed to guide students through the various procedural steps that lead to a Diploma study. It also provides graduate program descriptions, the requirements needed to obtain a graduate Diploma, and a clear outline of the procedural steps that students need to follow. Students are also provided with information on matters related to general administration such as student services and facilities, campus disciplinary measures, student organizations and other relevant matters.

This book serves as a preliminary guide and does not purport to completely address every policy, procedure and regulation. In addition no claim is made that this document covers all the rules and regulations in effect now at POLIMAS. Students must refer to there event POLIMAS Department programmes and services publications and other Departments and Units Policies for further information.

## 2.0 VISION & MISSION

### DEPARTMENT OF POLYTECHNIC EDUCATION

**VISION**

To be the Premier Industry-led TVET institution.

**MISSION**

1. To provide access to quality and recognised TVET programme.
2. To develop industry-led curriculum and enhance graduate readiness through coordinated industry engagement.
3. To produce balanced and enterprising graduate through dynamic and sustainable study programme.
4. To gain international recognition through collaboration and active participations in TVET community.

### SULTAN ABDUL HALIM MU'ADZAM SHAH POLYTECHNIC

**POLIMAS VISION:**

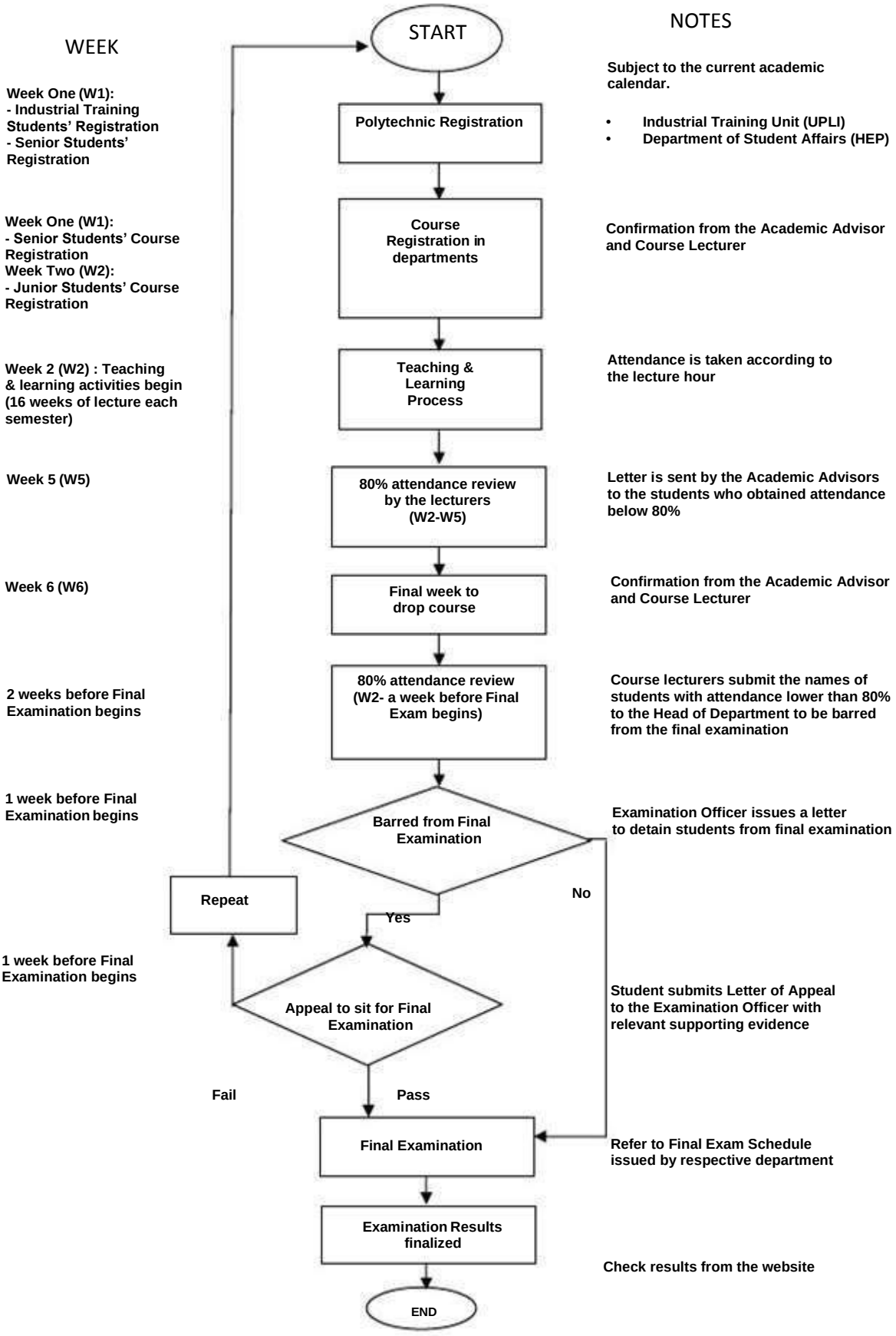
To be an excellent TVET institution in line with industrial needs.

**POLIMAS MISSION:**

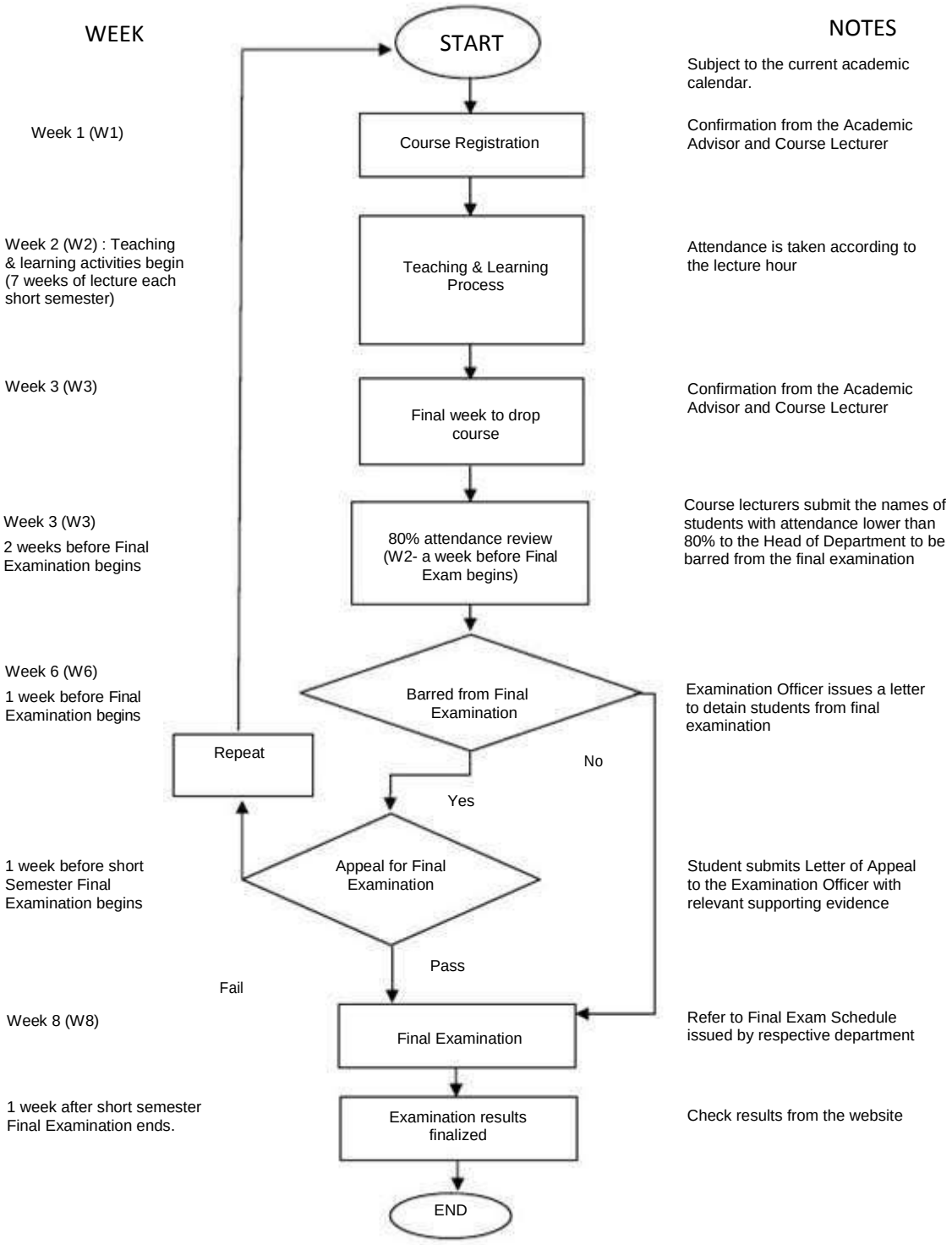
Provide access to quality and recognised TVET programmes to produce holistic, enterprising and competitive human capital in line with glocal industrial needs.

## 3.0 ACADEMIC FLOW CHART

# ACADEMIC FLOW CHART FOR SEMESTER



# ACADEMIC FLOW CHART FOR SHORT SEMESTER

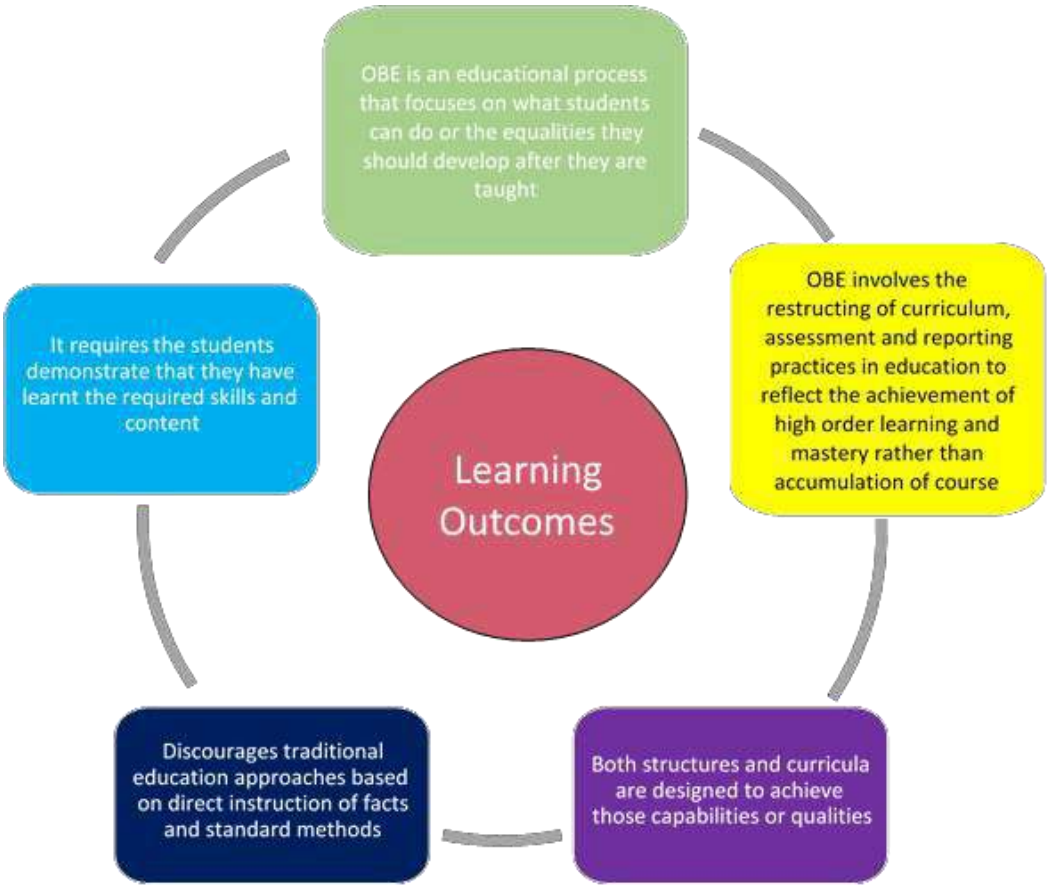


## 4.0 OUTCOME-BASED EDUCATION [OBE]

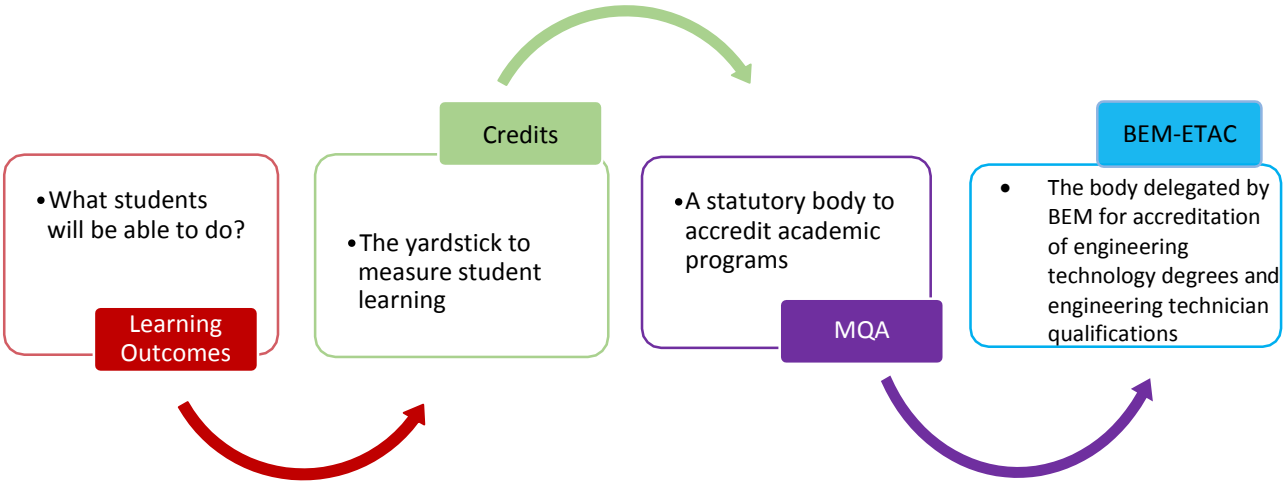
Outcome-based education (OBE) is an educational model for students to demonstrate their knowledge and able to perform according to the required outcomes. It is a student-centered approach that focuses on students' learning. It starts with a clear picture of what students should know, what they should be able to do, and what desirable attitudes and values needed to organize the curriculum, instruction, and assessment to ensure an ultimate learning (Spady, 1994:1). Thus, OBE involves the restructuring of curriculum and assessment that reflects achievement of high learning order and mastery learning.

OBE helps students to be aware of what they should learn, aware of what they are learning and the control over their own learning. It leads to successful student learning and encourages lecturers to be well prepared. It also provides students with appropriate, purposeful learning experiences and opportunities for students to develop originality, self-motivation and independence while acquiring useful knowledge and skills.

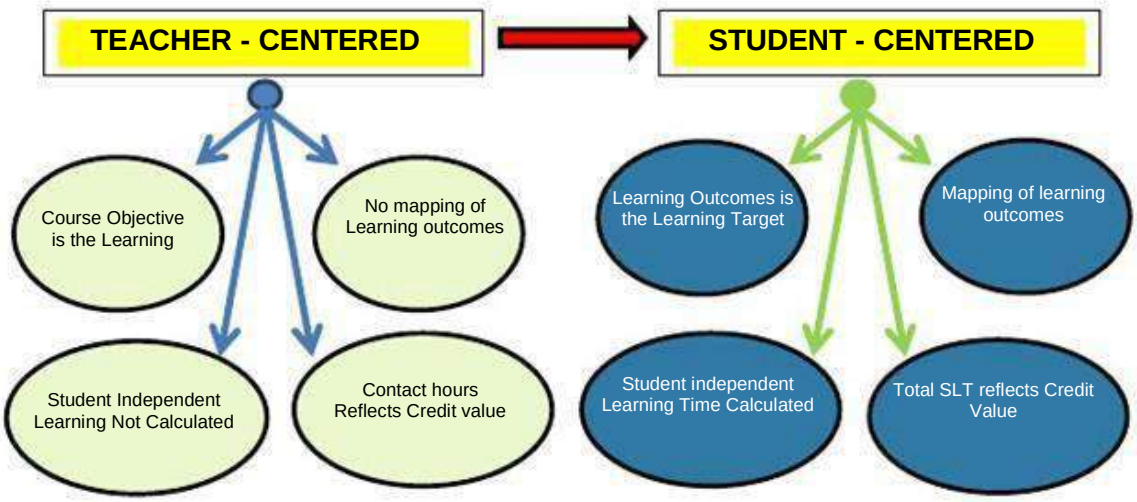
## 4.1 WHAT IS OUTCOME-BASED EDUCATION [OBE]



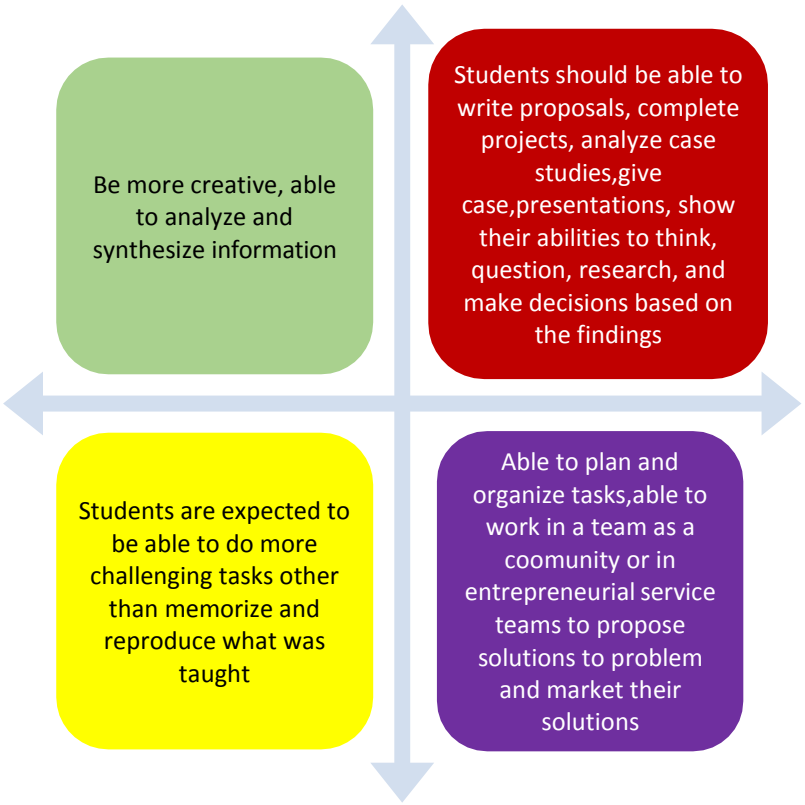
## 4.2 ACREDITATION PROCESS



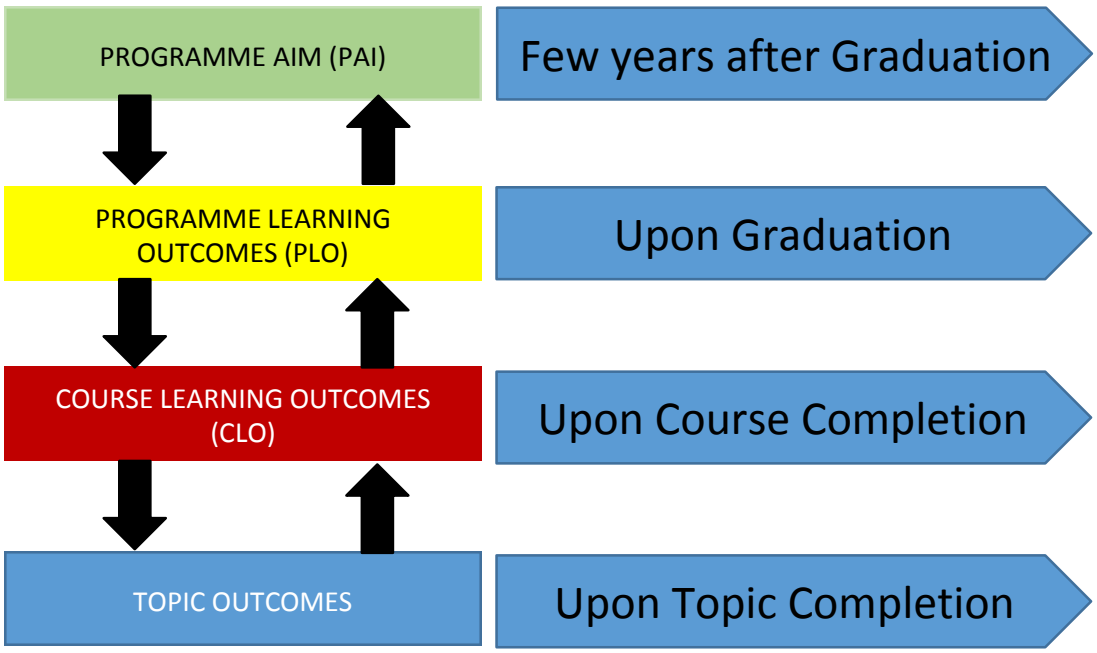

## 4.3 HOW DOES OBE AFFECT TEACHING-LEARNING



## 4.4 EXPECTATIONS ON STUDENTS

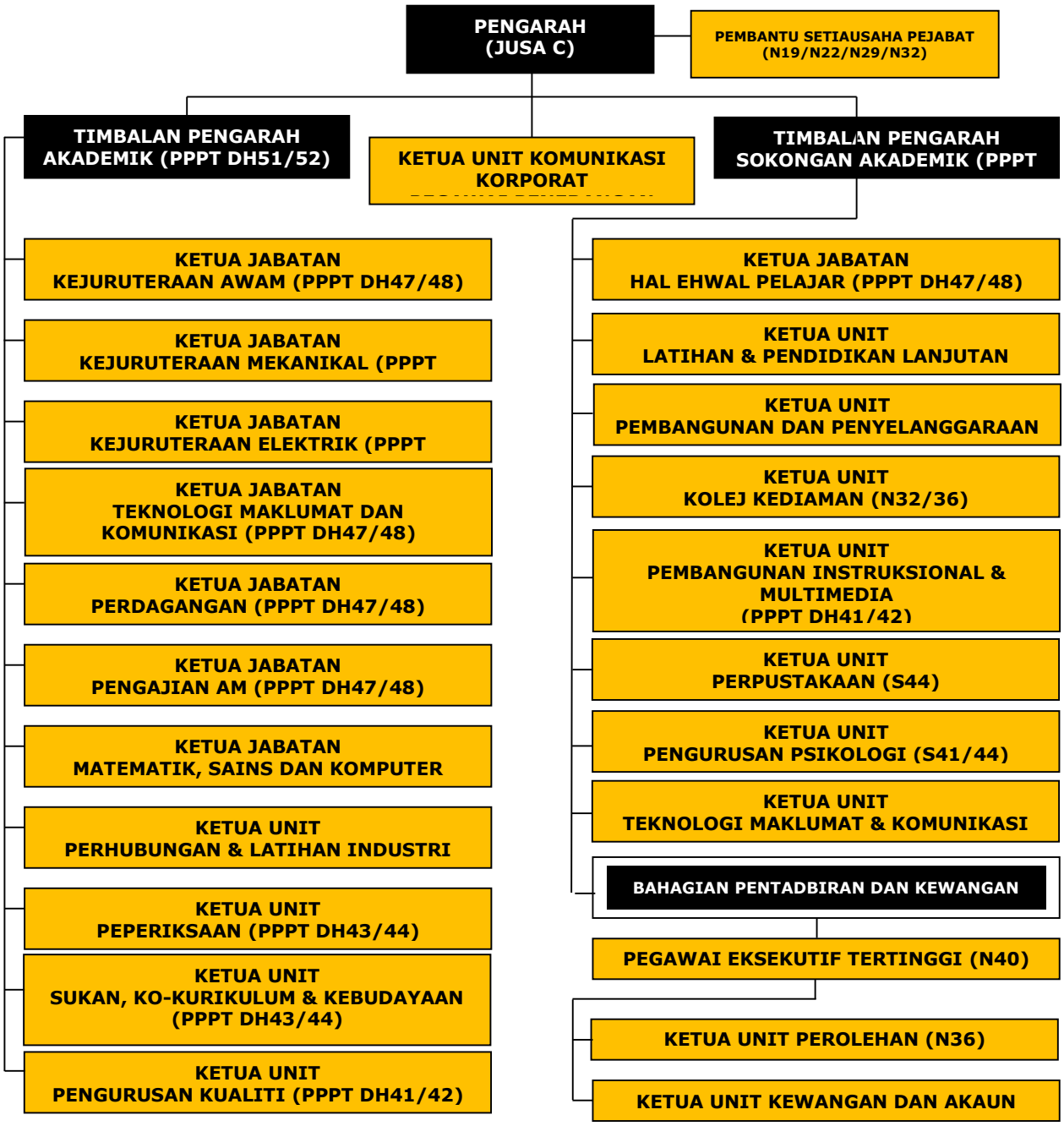



## 4.5 DIFFERENT LEVELS OF OBE



## 4.6 EXPECTED LEARNING DOMAIN

## 5.0 MANAGEMENT ORGANISATION CHART



## 6.0 MECHANICAL ENGINEERING DEPARTMENT

## 6.1 MECHANICAL ENGINEERING DEPARTMENT ORGANISATION CHART

KETUA JABATAN: **IR NIK AHMAD FARIS BIN NIK ABDULLAH**
PEN. KETUA JABATAN (Hal-Hal Pelajar): **NAZRI BIN AHMAD**
PEN. KETUA JABATAN (Akademik): **KAMSIDI @ ABD MALEK BIN SIDEK**

| PROGRAM KEJ. MEKANIKAL (DKM) | | |
|---|---|---|
| 1 | **Mohd Zahri Bin Jaafar (KP)** | DH44 |

| PROGRAM KEJ. MEKANIKAL LOJI (DJL) | | |
|---|---|---|
| 1 | **Muhammad bin Abdullah (KP)** | DH44 |
| 2 | Mhd Radzi Bin Hussain | DH54 |
| 3 | Abd Khalid Bin Juraimi | DH52 |
| 4 | Mohamad Pauzi Bin Mat Din | DH48 |
| 5 | Mohd Fathurahman Bin Kamarudin | DH48 |
| 6 | Airul Aznie Bin Mohd Sahari | DH44 |
| 7 | Haslawati Binti Mohamad | DH44 |
| 8 | Mohd. Fadzli Bin Othman | DH44 |
| 9 | Muhammad Adli Bin Haron | DH44 |
| 10 | Nazri Bin Ahmad | DH44 |
| 11 | Norhasimah Binti Habibi | DH44 |
| 12 | Rokayah Binti A. Rashid | DH44 |
| 13 | Siti Salwa binti Samsuri | DH44 |
| 14 | Mohd Nizam Bin Osman | DH42 |
| 15 | Rohaizan Bin Radzi | DH41 |
| 16 | Mohd Rafidi Bin A. Aziz | DH41 |
| 17 | Mohd Radzi Bin Mohd Rajab | DH34 |
| 18 | Wan Mahafez Bin Rosni | DH34 |

| PROGRAM KEJ. MEKANIKAL PEMBUATAN (DTP) | | |
|---|---|---|
| 1 | **Khairul Adly Bin Abd Wahib (KP)** | DH44 |
| 2 | Normah Binti Cheman | DH52 |
| 3 | Kamarulna Fuzi Bin Mad Kasim | DH48 |
| 4 | Mohd. Nadzri Bin Lazim | DH48 |
| 5 | Neza Nurulhuda Binti Nekmat | DH48 |
| 6 | Syaiful Nizam Bin Ab. Rahim | DH48 |
| 7 | Ahmad Asmadishah Bin Samsudin | DH44 |
| 8 | Azijan Bin Murad | DH44 |
| 9 | Mohd Hazri Bin Omar | DH44 |
| 10 | Mohd Helmi Bin Abd Halim | DH44 |
| 11 | Mohd Nazri Bin Abd Halim | DH44 |
| 12 | Nur Faridah Hanim binti Mohd. Mokhtar | DH44 |
| 13 | Syed Mohd. Fadly Bin Syed Hassan | DH44 |
| 14 | Zainol Bin Hashim | DH44 |
| 15 | Mohd Izham Bin A. Rahim | DH41 |
| 16 | Nor Ruzzana Binti Abd Rahman | DH41 |
| 17 | Zairini Binti Mohammad | DH41 |
| 18 | Mohd Shakir Bin Mohammad Isa | DH42 |
| 19 | Abdul Rahman Bin Mohd Khaidzir | DH34 |

| PROGRAM KEJ. MEKATRONIK (DEM) | | |
|---|---|---|
| 1 | **Syukrul Hassani Bin Jamaludin (KP)** | DH44 |
| 2 | Che Mohd Azmi Bin Che Ibrahim | DH48 |
| 3 | Faizal Bin Ahmad | DH48 |
| 4 | Mohd Yahya Bin Saad | DH48 |
| 5 | Norfidah Binti Abdul Hamid | DH48 |
| 6 | Muffili Bin Mahadi | DH48 |
| 7 | Azahar Bin Mohd Noor | DH44 |
| 8 | Kamsidi @ Abd Malek Bin Sidek | DH44 |
| 9 | Lizawati Binti Jaafar | DH44 |
| 10 | Mohd Nazri Bin Saad | DH44 |
| 11 | Mohd. Zaniel Bin Mahadzir | DH44 |
| 12 | Shaiful Zamri Bin Abdul Sattar | DH44 |
| 13 | Shariman Bin Johari | DH44 |
| 14 | Wan Nor Harman Bin Wan Yahaya | DH44 |
| 15 | Abdul Latif Bin Abd Razak | DH41 |
| 16 | Siti Arfah Binti Hashim | DH41 |
| 17 | Sofian Bin Yusoff | DH41 |
| 18 | Mohd Zulkiflee Faizal Bin Saleh | DH41 |

| PROGRAM KEJ. MEKANIKAL PLASTIK(DMK) | | |
|---|---|---|
| 1 | **Azunaidi Bin Abdul Aziz (KP)** | DH44 |
| 2 | Azimah Binti Ismail | DH48 |
| 3 | Nor Mahani Binti Md Rasidi | DH48 |
| 4 | Riduwan Bin Zakaria | DH48 |
| 5 | Wan Aziz Bin Wan Abd Kadir | DH48 |
| 6 | Ahmad Fahmi Bin Fadzil | DH44 |
| 7 | Mahdir Bin Abdullah | DH44 |
| 8 | Mohd Hairol Mizzam Bin Haris | DH44 |
| 9 | Noor Ikhsan Bin Mohd Jamil | DH44 |
| 10 | Suzana Binti Shafie | DH44 |
| 11 | Azora Binti Jaafar | DH41 |
| 12 | Jefri Bin Hanafiah | DH41 |
| 13 | Ku Nasharudin Bin Ku Ismail | DH41 |
| 14 | Mohd Alfathi Bin Md Udin | DH41 |
| 15 | Siti Rohanah Binti Murad | DH41 |
| 16 | Zulkifli Bin Hamzah | DH41 |
| 17 | Muhammad Izzuddin Bin Mohd Yusoff | DH34 |
| 18 | Mohd Nubli Bin Ahmat | DH34 |

| **STAF SOKONGAN** | | |
|---|---|---|
| **PEMBANTU MAKMAL** | | |
| 1 | Ishak Bin Man | C17 |
| 2 | Norizan Binti Md Isa | C17 |
| 3 | Norazaimi Binti Ramli | C17 |
| **PENOLONG JURUTERA** | | |
| 1 | Mohamad Taufik Bin A.Rahman | JA29 |
| **PEMBANTU OPERASI** | | |
| 1 | Mohd Padzri Bin Bakar | N11 |

## 6.2 PROGRAMME MECHANICAL ENGINEERING (PLANT) LECTURERS

| No. | Name | Designation | Contact No. | E-mail |
|---|---|---|---|---|
| 1. | Muhammad Bin Abdullah | Head of Programme | 04-914 6100 ex 6168 | muhammad@polimas.edu.my |
| 2. | Mhd Radzi Bin Hussain | Lecturer | 04-914 6100 ex 6667 | mrhpk@yahoo.com |
| 3. | Abd Khalid Bin Juraimi | Lecturer | 04-914 6100 ex 6380 | policomm2m@yahoo.com.my |
| 4. | Mohamad Pauzi Bin Mat Din | Lecturer | 04-914 6100 ex 6410 | m_pauzi@polimas.edu.my |
| 5. | Mohd Fathurahman Bin Kamarudin | Lecturer | 04-914 6100 ex 6168 | fathurrahman@polimas.edu.my |
| 6. | Airul Aznie Bin Mohd Sahari | Lecturer | 04-914 6100 ex 6245 | aznieda75@yahoo.com |
| 7. | Haslawati Binti Mohamad | Lecturer | 04-914 6100 ex 6168 | haslawati@polimas.edu.my |
| 8. | Mohd. Fadzli Bin Othman | Lecturer | 04-914 6100 ex 6245 | fadzli@polimas.edu.my |
| 9. | Muhammad Adli Bin Haron | Lecturer | 04-914 6100 ex 6667 | mami1702@yahoo.com |
| 10. | Nazri Bin Ahmad | Lecturer | 04-914 6100 ex 6242 | nazri@polimas.edu.my |
| 11. | Norhasimah Binti Habibi | Lecturer | 04-914 6100 ex 6168 | norhasimah6778@gmail.com |
| 12. | Rokayah Binti A. Rashid | Lecturer | 04-914 6100 ex 6168 | kayaharashid@yahoo.com |
| 13. | Siti Salwa Binti Samsuri | Lecturer | 04-914 6100 ex 6168 | salwa1909@gmail.com |
| 14. | Mohd Nizam Bin Osman | Lecturer | 04-914 6100 ex 6244 | m_nizam@polimas.edu.my |
| 15. | Rohaizan Bin Radzi | Lecturer | 04-914 6100 ex 6667 | rohaizan@jkm.polimas.edu.my |
| 16. | Mohd Rafidi Bin A. Aziz | Lecturer | 04-914 6100 ex 6667 | rafidi@polimas.edu.my |
| 17. | Mohd Radzi Bin Mohd Rajab | Lecturer | 04-914 6100 ex 6667 | radzirajab82@gmail.com |
| 18. | Wan Mahafez Bin Rosni | Lecturer | 04-914 6100 ex 6245 | mahafey@gmail.com |

## 6.3 PROGRAMME DIPLOMA IN MECHANICAL ENGINEERING (PLANT)-DJL

### 6.3.1 PROGRAMME OVERVIEW

**SYNOPSIS**

Diploma in Mechanical Engineering (Plant) is designed to cover the current wide discipline of mechanical engineering with added specialisation in the area of plant. The broad-based mechanical engineering foundation courses which includes Computer Application, Engineering Drawing, Computer Aided Design, Occupational Safety and Health and Mechanical Workshop provides versatility to the graduates, thus emphasizing the area of specialisation in mechanical and plant. The specialized courses include Plant Maintenances, Plant Engineering Practices, Power Plant Engineering, Plant Control System and Plant Service Drawing.

### 6.3.2 JOB PROSPECT

This programme provides the knowledge and skills in mechanical and plant engineering field that can be applied to a broad range of careers in mechanical and plant industries. The knowledge and skills that the students acquire from the programme will enable them to participate in the job market as:

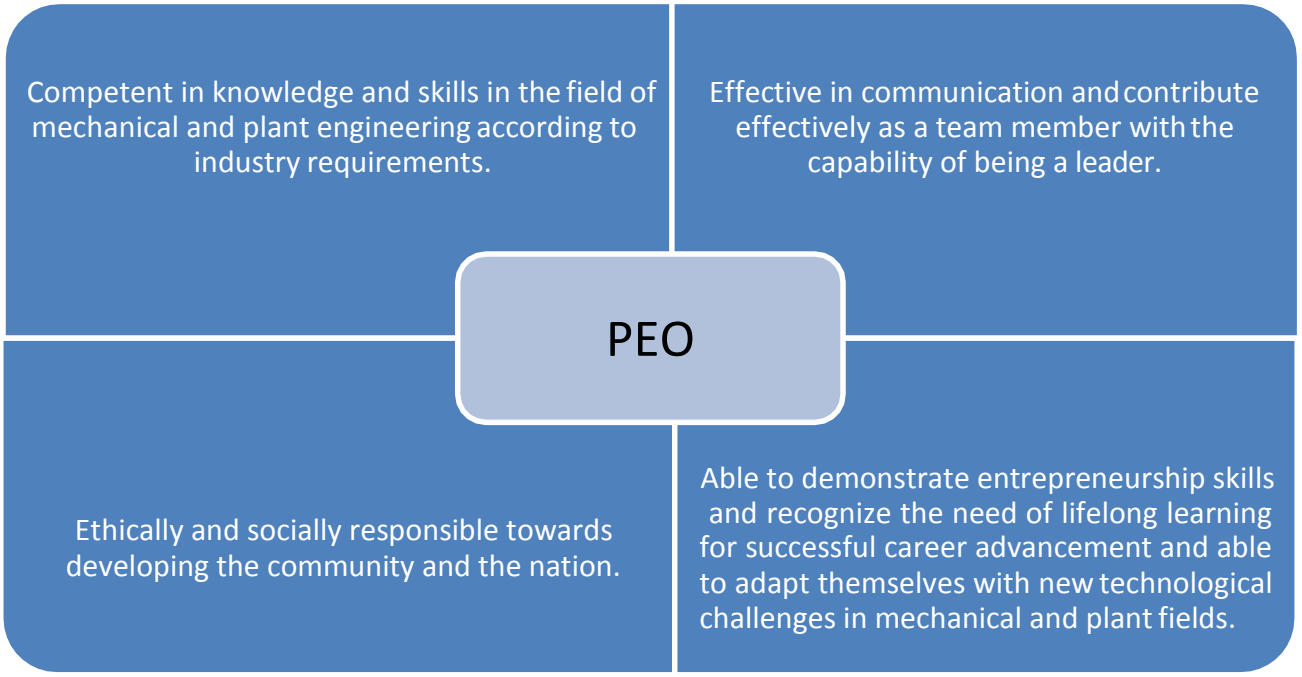
i. Plant Assistant Engineer
ii. Mechanical Technician
iii. Process Technician
iv. Plant Maintenance & Operation Technician
v. Plant Operator
vi. General Technician
vii. Apprentice (Boiler man & Steam Engineer)

### 6.3.3 PROGRAMME AIMS

The Diploma in Mechanical Engineering (Plant) graduates in Polytechnics, Ministry of Education will have the knowledge, technical skills, softskills and attitude to adapt themselves with new technological advancement and challenges in the plant engineering field.

### 6.3.4 PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

The Diploma in Mechanical Engineering (Plant) programme shall produce semi-professionals who are:



### 6.3.2 PROGRAM LEARNING OUTCOMES (PLO)

Upon completion of the programme, the graduates should be able to:

| | |
|---|---|
| PLO 1 | • apply knowledge of mathematics, science and engineering fundamentals to well defined mechanical engineering procedures and practices with specialisation in plant. |
| PLO 2 | • analyse well-defined mechanical engineering specializing in plant problems with respect to operation and maintenance, including troubleshooting. |
| PLO 3 | • conduct investigations and assist in the design of solutions for mechanical specializing in plant engineering systems. |
| PLO 4 | • apply appropriate techniques, resources, and engineering tools to well-defined mechanical specializing in plant engineering activities, with an awareness of the limitations. |
| PLO 5 | • demonstrate an awareness and consideration for societal, health, safety, legal and cultural issues and their consequent responsibilities. |
| PLO 6 | • communicate effectively with the engineering community and society at large. |
| PLO 7 | • function effectively as an individual and as a member in diverse technical teams. |
| PLO 8 | • demonstrate an understanding of professional ethics, responsibilities and norms of engineering practices. |
| PLO 9 | • demonstrate an awareness of management and entrepreneurship. |
| PLO 10 | • demonstrate an understanding of the impact of engineering practices, taking into account the needs for sustainable development. |
| PLO 11 | • recognize the needs for professional development and to engage in independent and lifelong learning. |

### 6.3.3 PROGRAMME STURUCTURE FOR DIPLOMA IN MECHANICAL ENGINEERING (PLANT)

| COMPONENTS | COURSE CODE | COURSE | CONTACT HOURS | | | CREDIT |
|---|---|---|---|---|---|---|
| | | | L | P | T | |
| **SEMESTER 1** | | | | | | |
| Compulsory | DUB1012 | Pengajian Malaysia | 1 | 0 | 2 | 2 |
| | DUE1012 | Communicative English 1 | 1 | 0 | 2 | 2 |
| | DRB1XX0 | Asas Unit Beruniform | 0 | 2 | 0 | 0 |
| Common Core | DUW1012 | Occupational, Safety and Health | 2 | 0 | 0 | 2 |
| | DBM1013 | Engineering Mathematics 1 | 2 | 0 | 2 | 3 |
| | DBS1012 | Engineering Science | 2 | 1 | 0 | 2 |
| Discipline Core | DJJ1012 | Engineering Drawing | 1 | 2 | 0 | 2 |
| | DJJ1032 | Mechanical Workshop Practice 1 | 0 | 4 | 0 | 2 |
| | DJJ1043 | Workshop Technology | 3 | 0 | 0 | 3 |
| | | **TOTAL** | **27** | | | **18** |
| **SEMESTER 2** | | | | | | |
| Compulsory | DUA2012 | Sains, Teknologi dan Kejuruteraan Dalam Islam * | 1 | 0 | 2 | 2 |
| | DUB2012 | Nilai Masyarakat Malaysia ** | 1 | 0 | 2 | 2 |
| | DRS2XX1 | Sukan | 0 | 2 | 0 | 1 |
| | DRB2XX1 | Unit Beruniform 1 | 0 | 2 | 0 | 1 |
| Common Core | DBM2013 | Engineering Mathematics 2 | 2 | 0 | 2 | 3 |
| Discipline Core | DJJ2022 | Electrical Technology | 2 | 2 | 0 | 2 |
| | DJJ2062 | Computer Aided Design 1 | 1 | 2 | 0 | 2 |
| | DJJ2073 | Thermodynamics | 2 | 2 | 0 | 3 |
| | DJJ2093 | Fluid Mechanics | 2 | 2 | 0 | 3 |
| Specialization | DJL2012 | Plant Maintenance | 2 | 2 | 0 | 2 |
| | | **TOTAL** | **28** | | | **18** |
| **SEMESTER 3** | | | | | | |
| Compulsory | DUE3012 | Communicative English 2 | 1 | 0 | 2 | 2 |
| | DRK3XX2 | Kelab/Persatuan | 0 | 4 | 0 | 2 |
| | DRB3XX2 | Unit Beruniform 2 | 0 | 4 | 0 | 2 |
| Common Core | DBM3013 | Engineering Mathematics 3 | 2 | 0 | 2 | 3 |
| Discipline Core | DJJ3053 | Engineering Mechanics | 2 | 2 | 0 | 3 |
| | DJJ3103 | Strength of Materials | 2 | 2 | 0 | 3 |
| | DJJ3213 | Material Science | 2 | 2 | 0 | 3 |
| Specialization | DJL3032 | Power Plant Engineering 1 | 2 | 0 | 0 | 2 |
| | | **TOTAL** | **25** | | | **18** |
| **SEMESTER 4** | | | | | | |
| | DUT40110 | Industrial Training | 0 | 0 | 0 | 10 |
| | | **TOTAL** | **0** | | | **10** |
| **SEMESTER 5** | | | | | | |
| Compulsory | DUE5012 | Communicative English 3 | 1 | 0 | 2 | 2 |
| Discipline Core | DJJ5113 | Mechanics of Machines | 2 | 2 | 0 | 3 |
| Specialization | DJL3022 | Plant Engineering Practice | 0 | 4 | 0 | 2 |
| | DJL5032 | Power Plant Engineering 2 | 2 | 0 | 1 | 2 |
| | DJL6062 | Plant Service Drawing | 1 | 2 | 0 | 2 |
| | DJL5052 | Plant Control System 1 | 2 | 0 | 0 | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | DJJ5141 | Project 1 | 0 | 2 | 0 | 1 |
| Elective | | Elective *** | 1 | 2 | 0 | 2 |
| | DJM3072 | Programmable Logic Control | 1 | 2 | 0 | 2 |
| | DJJ5062 | Computer Aided Design 2 | 1 | 2 | 0 | 2 |
| | DJJ6192 | Industrial Management | 2 | 0 | 0 | 2 |
| | | **TOTAL** | **24** | | | **16** |
| **SEMESTER 6** | | | | | | |
| Compulsory | DUA6022 | Komunikasi dan Penyiaran Islam | 1 | 0 | 2 | 2 |
| Common Core | DPB2012 | Entrepreneurship | 2 | 1 | 0 | 2 |
| Specialization | DJL6033 | Power Plant Engineering 3 | 2 | 0 | 2 | 3 |
| | DJL6053 | Plant Control System 2 | 2 | 2 | 0 | 3 |
| | DJJ6143 | Project 2 | 0 | 4 | 0 | 3 |
| Elective | | Elective*** | 2 | 2 | 0 | 3 |
| | DJJ5123 | Pneumatic and Hydraulic | 2 | 2 | 0 | 3 |
| | DJJ5133 | Engineering Design | 3 | 0 | 0 | 3 |
| | DUA6042 | Tamadun Islam | 2 | 0 | 1 | 2 |
| | DUA6012 | Integrasi Malaysia | 1 | 0 | 2 | 2 |
| | DBC2012 | Computer Application | 1 | 2 | 0 | 2 |
| | | **TOTAL** | **22** | | | **16** |

| | **Total Credit** | **%** |
|---|---|---|
| i. Compulsory | 15 | 16% |
| ii. Common Core | 15 | 16% |
| iii. Discipline Core | 29 | 30% |
| iv. Specialization | 22 | 23% |
| iv. Elective | 5 | 5% |
| v. Industrial Training | 10 | 10% |
| **TOTAL CREDIT** | **96** | **100%** |

| | **Total** | **%** |
|---|---|---|
| i. Lecture | 53 | 42 |
| ii. Practical (Practical+Tutorial) | 73 | 58 |
| iii. Contact Hours | 126 | - |

**Legend / Notes:**

**L** : Lecture, **P** : Practical/Lab, **T** : Tutorial, **C** : Credit (The numbers indicated under L, P &

* For Muslim Students

** For Non Muslim Students

*** Students are

For Co-curriculum,

1. Path 1 : Sport and Club
2. Path 2 : Uniform Unit

Uniform Unit (Students who choose Uniform Unit are required to complete 5 modules for commisioning)

1. DRB1XX0 (Asas Unit Beruniform) is a prerequisite to DRB2xx1 (Unit Beruniform 1).
2. DRB2XX1 and DRB3XX2 are graded.
3. DRB5XX0 and DRB6XX0 are optional, non-graded and audited courses with full assessment. Upon completion, students are entitled for commisioning.

## 6.3.4 SYNOPSIS AND COURSE LEARNING OUTCOMES (CLO)

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
|---|---|---|---|
| 1. | **DUB1012 PENGAJIAN MALAYSIA** | **PENGAJIAN MALAYSIA** memupuk penghayatan ke arah melahirkan generasi yang cintakan negara. Kursus ini juga dapat mendidik kelompok masyarakat yang mempunyai daya juang yang tinggi dan mampu menghadapi cabaran di peringkat antarabangsa. Kursus ini memberi penghayatan tentang sejarah dan politik, perlembagaan Malaysia, kemasyarakatan dan perpaduan, pembangunan negara dan isu-isu keprihatinan negara. Objektif kursus ini adalah untuk melahirkan warganegara yang setia dan cintakan negara, berwawasan serta bangga menjadi rakyat Malaysia.<br><br>KREDIT: 2<br>PRASYARAT: TIADA | 1. Menerangkan dengan baik sejarah bangsa dan negara. (C2, LD1)<br>2. Menjelaskan Perlembagaan Malaysia dan sistem pemerintahan negara. (C2, LD1)<br>3. Melaksanakan aktiviti berkaitan kenegaraan ke arah peningkatan patriotisme pelajar. (C3, LD1 : A3,LD6) |
| | **DUE1012 COMMUNICATIVE ENGLISH 1** | **COMMUNICATIVE ENGLISH 1** focuses on developing students' speaking skills to enable them to communicate effectively and confidently in group discussions and in a variety of social interactions. It is designed to provide students with appropriate reading skills to comprehend a variety of texts. It is also aimed to equip students with effective presentation skills.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Apply appropriate language and communication skills in discussions and conversations. (C3)<br>2. Apply effective listening skills to demonstrate comprehension of audio recordings in a variety of situations. (C3)<br>3. Comprehend a variety of reading texts by applying effective reading skills. (C2)<br>4. Write in response to a stimulus using appropriate language. (C3)<br>5. Deliver an effective presentation using appropriate visual aids, verbal and non-verbal communication skills. (C3, A3) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
|---|---|---|---|
| | **DUW1012 OCCUPATIONAL, SAFETY AND HEALTH** | **OCCUPATIONAL SAFETY AND HEALTH** course is designed to impart understanding of the self-regulatory concepts and provisions under the Occupational Safety & Health Act (OSHA). This course presents the responsibilities of employers and employees in implementing and complying with the safety procedures at work. This course provide an understanding of the key issues in OSH management, incident prevention, Emergency Preparedness and Response (EPR), fire safety, occupational first aid, Hazard Identification, Risk Assessment and Risk Control (HIRARC) and guide the students gradually into this multi-disciplinary science.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Identify the OSH legislation and its compliance in Malaysia. (C2, LD1)<br>2. Explain briefly incident hazards, risks and safe work practices in order to maintain health and safe work environment. (C2, LD1)<br>3. Discuss cooperatively in responding to an accident action at workplace. (C3,LD1; A2,LD4)<br>4. Adhere to the safety procedures in respective fields. (A3, LD8) |
| | **DBM1013 ENGINEERING MATHEMATICS 1** | **ENGINEERING MATHEMATICS 1** expose students to the basic algebra including perform partial fractions. This course also exposes the concept of trigonometry and the method to solve trigonometry problems by using basic identities, compound angle and double angle formulae. Students also will be introduced to the theory of complex number and matrices method to solve simultaneous equation. This course also introduces students to concept of vector and scalar.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Identify mathematical methods in solving the mathematical problems. (C2, LD1)<br>2. Solve the mathematical problems by using appropriate techniques and solutions. (C3, LD1)<br>3. Practice mathematical knowledge and skills in different mathematics problem. (C3, LD1) |
| | **DBS1012 ENGINEERING SCIENCE** | **ENGINEERING SCIENCE** is an applied science with theoretical concepts and practical learning sessions that can be applied in the engineering fields. This course focuses on the Physical Quantities, Measurement, Linear Motion, Force, Work, Energy, Power, Solid, Fluid, Temperature and Heat.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Solve the basic engineering science problems by using related concept. (C3, LD1)<br>2. Organise an appropriate experiments to prove related physic principles. (P3, LD2)<br>3. Apply related physic principles in various situations to enhance knowledge. (C3, LD1) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| | **DJJ1012 ENGINEERING DRAWING** | The **ENGINEERING DRAWING** course provides the students with the fundamentals of engineering drawings. It emphasizes on the practical knowledge of drawing instruments and drawing techniques that will be applied in workshop practical activities and in Computer Aided Design courses.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Apply the basic fundamentals of engineering drawing in comply to related problems. (C3, PLO1 )<br>2. Construct engineering drawings according to the required standards. (P4, PLO 4 )<br>3. Demonstrate the understanding of engineering norms and practices in engineering drawing. (A3, PLO 8) |
| | **DJJ1032 MECHANICAL WORKSHOP PRACTICE 1** | **MECHANICAL WORKSHOP PRACTICE 1** exposes the students to welding, machining and fitting which involve the use of arc and gas welding machine, lathe machine, drilling machine, grinding, hand tools, marking out tools, measuring and testing tools. Students are also taught to emphasize on safety procedures and cleanliness in the workshop.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Perform fitting , machining and welding works according to Standard Operating Procedure (SOP). (P4, PLO4)<br>2. Demonstrate the awareness of social responsibility and safety in practical work procedures and practices. (A3, PLO5)<br>3. Demonstrate an understanding of professional ethics, responsibilities and norms of engineering practices according to the workshop safety regulation. (A3, PLO8) |
| | **DJJ1043 WORKSHOP TECHNOLOGY** | **WORKSHOP TECHNOLOGY** provides exposure and knowledge in using hand tools, machine operation such as drilling, lathe, milling and computer numerical control. It also covers on gear measurement and inspection welding process in oxy acetylene, Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW).<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Apply the knowledge of basic mechanical components and equipment, hand tools and measuring equipment in workshop technology. (C3, PLO1)<br>2. Analyze the types of the removal and joining process in mechanical engineering. (C4, PLO2)<br>3. Demonstrate continuous learning and information management skills while engaging in the new knowledge and skills to develop report and presentation. (A3, PLO11) |
| **2.** | **DUA2012 SAINS, TEKNOLOGI DAN KEJURUTERAAN ISLAM** | **SAINS, TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM** memberi pengetahuan tentang konsep Islam sebagai al-Din dan seterusnya membincangkan konsep sains, teknologi dan kejuruteraan dalam Islam serta impaknya, pencapaiannya dalam tamadun Islam, prinsip serta peranan syariah dan etika Islam, peranan kaedah fiqh serta aplikasinya.<br><br>KREDIT: 2<br>PRASYARAT: TIADA | 1. Menghuraikan konsep Islam sebagai cara hidup. (C2, LD1 : P2, LD2)<br>2. Menjelaskan konsep sains, teknologi dan kejuruteraan dalam Islam. (C2, LD1)<br>3. Membincangkan prinsip syariah dan kaedah fiqh dalam sains, teknologi dan kejuruteraan. (C3, LD1 : A3, LD6) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| | **DUB2012 NILAI MASYARAKAT MALAYSIA** | **NILAI MASYARAKAT MALAYSIA** membincangkan aspek sejarah pembentukan masyarakat Malaysia, nilai-nilai agama serta adat resam dan budaya masyarakat majmuk. Selain itu, pelajar diberi kefahaman mengenai tanggungjawab individu dalam kehidupan dan cabaran-cabaran dalam membangunkan masyarakat Malaysia.<br><br>KREDIT: 2<br>PRASYARAT: TIADA | 1. Menerangkan sejarah pembentukan masyarakat dan nilai agama di Malaysia. (C2 : LD1)<br>2. Menghubung kait tanggungjawab individu dalam kehidupan masyarakat dan negara. (C3 : LD1, A2 : LD5)<br>3. Membincangkan cabaran-cabaran dalam membangunkan masyarakat Malaysia. (C3 : LD1, A3 : LD6) |
| | **DBM2013 ENGINEERING MATHEMATICS 2** | **ENGINEERING MATHEMATICS 2** exposes students to the basic laws of exponents and logarithms. This course also introduces the basic rules of differentiation concept to solve problems that relate maximum, minimum and calculate the rates of changes. This course also discuss integration concept in order to strengthen student knowledge for solving area and volume bounded region problems. In addition, students also will learn application of both techniques of differentiation and integration.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Solve the mathematical problems by using appropriate mathematical techniques and solutions. (C3, LD1)<br>2. Show the solution for differentiation and integration problem by using appropriate method. (C3, LD1)<br>3. Practice mathematical knowledge and skills in different mathematics problem. (C3, LD1) |
| | **DJJ2022 ELECTRICAL TECHNOLOGY** | **ELECTRICAL TECHNOLOGY** exposes students to the basic electrical circuit concepts, the application of electromagnetism in electrical machines and transformers. The course focuses on the different types of electrical circuits, the relationship between current and voltage including the resistance. It also provides the skills on the methods of constructing basic circuits and operation of electrical machines and transformers. This course also exposes the students to the demonstration of experiments in Electrical Technology.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Explain the principles of electrical circuits, electromagnetism, transformers and electrical machines to solve related problems. (C4,PLO2)<br>2. Organize appropriately experiments in groups according to the Standard Operating Procedures. (P4,PLO4)<br>3. Demonstrate continuous learning and information management skills while engaging in independent acquisition of new knowledge and skills in laboratory report. (A3,PLO11) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| | **DJJ2062 COMPUTER AIDED DESIGN 1** | **COMPUTER AIDED DESIGN 1** provides a comprehensive introduction to Computer-Aided Design software. It is an introductory level where the students will learn to navigate and use the software to create two-dimensional design in engineering. Students shall be able to demonstrate competency in using some standard available features of a CAD application to create and manipulate objects or elements and to modify them. They should be able to change object properties and to undertake printing or plotting activity associated with the delivery outputs. In addition, students are required to use some advanced features of CAD software, such as inserting objects from other applications.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Apply the fundamental features of CAD software in producing engineering drawing. (C3, PLO 1)<br>2. Construct 2D drawing using fundamental features of CAD software. (P4, PLO 4)<br>3. Demonstrate continuous learning and information management skill while engaging in independent acquisition of new knowledge and skill to solve assigned task. (A3, PLO 11) |
| | **DJJ2073 THERMODYNAMICS** | **THERMODYNAMICS** provides knowledge of theory, concept and application of principles to solve problems related to thermodynamics. It emphasizes on concept of non-flow process and flow process, properties of steam, Carnot cycle and Rankine cycle. This course also exposes the students of the experiments in Thermodynamics applications.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Apply the fundamentals of thermodynamics to solve related problems. (C3,PLO1)<br>2. Organize appropriately experiments in groups according to the Standard Operating Procedures. (P4)<br>3. Demonstrate the ability to work in team to complete assigned tasks. (A3) |
| | **DJJ2093 FLUID MECHANICS** | **FLUID MECHANICS** provides the fundamentals of fluid mechanics principles related to the fluid properties and behaviour in static and dynamic situations. This course also exposes the experiments in fluids mechanics applications.<br><br>CREDIT(S ) : 3<br>PRE-REQUISITE: NONE | 1. Analyze problems related to the fluid mechanics and data from the experiments in relation to the theoretical aspects. (C4, PLO2)<br>2. Organize appropriately experiments in groups according to the Standard Operating Procedures. (P4, PLO4)<br>3. Demonstrate team work skill in assigned task. (A3, PLO7) |

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| | **DJL2012 PLANT MAINTENANCE** | PLANT MAINTENANCE provides an understanding about the basic principles of the methods of maintaining process that will be conducted to equipment facilities in certain plants. Study component covers the types of maintenance, maintenance organization, maintenance system, cost, spare parts and testing as well as tooling.<br><br>CREDIT(S): 2<br>PRE REQUISITE(S): NONE | 1. Explain the basic concept and usage of mechanical components and maintenance in plant. (C2, PLO1)<br>2. Perform appropriately experiments in groups according to the instruction given. (P4, PLO4)<br>3. Demonstrate properly maintenance base on standard operation procedure. (A3, PLO5) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| 3. | **DUE3012 COMMUNICATIVE ENGLISH 2** | **COMMUNICATIVE ENGLISH 2** emphasises the skills required at the workplace to describe products or services as well as processes or procedures. It also focuses on the skills to give and respond to instructions. This course will also enable students to make and reply to enquiries and complaints.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): DUE1012 COMMUNICATIVE ENGLISH 1 | 1. Describe products or services related to their field of studies using appropriate language. (C3, A3)<br>2. Transfer information of a process or procedure accurately from linear to non-linear form and vice versa. (C3)<br>3. Listen and respond to enquiries using appropriate language. (C3)<br>4. Make and respond to complaints using appropriate language. (C3) |
| | **DBM3013 ENGINEERING MATHEMATICS 3** | **ENGINEERING MATHEMATICS 3** exposes students to the statistical and probability concepts and their applications in interpreting data. The course also introduces numerical methods concept to solve simultaneous equations by using Gaussian Elimination method, LU Decomposition using Doolittle and Crout methods, polynomial problems using Simple Fixed Point Iteration and Newton-Raphson methods. In additional, the course also discusses optimization problems by using Linear Programming. In order to strengthen the students in solving advanced engineering problems, Ordinary Differential Equation (ODE) is also included.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): DBM2013 ENGINEERING MATHEMATICS 2 | 1. Solve the mathematical problems by using appropriate techniques and solutions. (C3, LD1)<br>2. Show the solution for statistics and probability problems, and linear programming by using appropriate mathematical methods. (C3, LD1)<br>3. Practice mathematical knowledge and skills in different mathematical problem. (C3, LD1) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| | **DJJ3053 ENGINEERING MECHANICS** | **ENGINEERING MECHANICS** focuses on theoretical knowledge in statics and dynamics. This course provides students with fundamental understanding of forces and equilibrium, resultants, equilibrium of a particles and structural analysis. This course also covers kinematics and kinetics of particles. This course also exposes the students to the demonstration of experiments in Engineering Mechanics.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Analyze problems related to statics and dynamics based on the concept and principles of engineering mechanics and data from the experiments in relation to the theoretical aspects. (C4, PLO2)<br>2. Organize appropriately experiments in groups according to the Standard Operating Procedures. (P4, PLO4)<br>3. Demonstrate ability to work in team to complete assigned tasks during practical work sessions. (A3, PLO7) |
| | **DJJ3103 STRENGTH OF MATERIALS** | **STRENGTH OF MATERIALS** provides knowledge on concepts and calculation of forces on materials, thermal stress, shear force and bending moment, bending stress, shear stress and torsion in shafts. It also deals with the experiments conducted on tensile test, bending moment, shearing force and torsion and deflection.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S) : NONE | 1. Analyze problems related to strength of materials and data from the experiments in relation to the theoretical aspects. (C4, PLO2)<br>2. Organize appropriately experiments in groups according to the Standard Operating Procedures. (P4, PLO4)<br>3. Demonstrate ability to work in team to complete assigned tasks during practical work sessions. (A3, PLO7) |
| | **DJJ3213 MATERIAL SCIENCE** | **MATERIAL SCIENCE** provides students with an understanding of material science and engineering which emphasizes on atomic and crystal structure, material properties and behaviour including material classification and its application in the engineering field. The topic also covers the processes of metal work used to produce engineering components and apply basic principles of material testing and processing through practical.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Explain the fundamental of material science including identification of various types of materials, mechanical behavior, metal production processes, and various principles of material testing. (C3, PLO1)<br>2. Perform experiments related to material science and engineering based on standard operating procedure. (P4, PLO4)<br>3. Demonstrate ability to work in team to complete assigned tasks during practical work sessions. (A3, PLO7) |

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| | **DJL3032**<br>**POWER PLANT ENGINEERING 1** | **POWER PLANT ENGINEERING 1** provides exposure to students as the entry-level personnel into power generation industry for both utility and manufacturing process plant. Emphasis of the course is on general and basic operating principle of various types of power plant such as steam power plant, gas turbine power plant, diesel power plant, hydroelectric power plant and nuclear power plant. This course also covers the important of power plant engineering for country development and environmental issues.<br><br>CREDIT HOUR(S): 2<br>PRE REQUISITE(S): NONE | 1. Justify the power generation engineering, environmental issues and its contribution to the country development. (A3, PLO1)<br>2. Generalize specifically the concept of power generation including steam power plant, gas turbine power plant, diesel power plant, hydro power plant, nuclear power plant, process cycle and terms used in power plant engineering. (C2, PLO2).<br>3. Identify the applications, main components, related equipment, various arrangements, plant auxiliaries, classifications and comparison between various types of power plant. (P1, PLO10) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| **4.** | **DUE5012 COMMUNICATIVE ENGLISH 3** | **COMMUNICATIVE ENGLISH 3** aims to develop the necessary skills in students to analyse and interpret graphs and charts from data collected as well as job hunting mechanics. Students will learn to present data through the use of graphs and charts. Students will learn the process of job hunting which includes job search strategies and making enquiries. They will also learn to write resumes and cover letters. The students will develop skills to introduce themselves, highlight their strengths and abilities, present ideas, express opinions and respond appropriately during job interviews.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): DUE3012 COMMUNICATIVE ENGLISH 2 | 1. Describe and analyze information contained in graphs and charts clearly and accurately based on a mini project. (C4, A3)<br>2. Write an effective resume and a supporting cover letter for a relevant job opening. (C3)<br>3. Handle a job interview effectively and confidently. (C3) |
| | **DJJ 5113 MECHANICS OF MACHINE** | **MECHANICS OF MACHINES** exposes the students with knowledge on basic techniques and concepts of mechanics of machines. This course also gives knowledge on how to create and use simple methods to solve problem in relation to hoists, friction, simple harmonic motion, velocity and acceleration diagram, friction and belt drives.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): DJJ3053 ENGINEERING MECHANICS | 1. Solve problem related to hoist system, simple harmonic motion and angular motion by using mathematics, science and engineering fundamental concepts correctly. (C3, PLO2)<br>2. Use the basic techniques and concepts of mechanic of machine to solve problems relate to friction, balancing and belt drive correctly. (C3, PLO4)<br>3. Study the theory in mechanics of machine related to engineering field in groups.(A3, PLO7) |
| | **DJL 3022 PLANT ENGINEERING PRACTICE** | **PLANT ENGINEERING PRACTICE** provides hands-on based approach for student in plant engineering. The experimental working procedure and skill in laboratory report writing will strengthen the student knowledge. The learning components cover the equipment and operation related to the plant engineering.<br><br>CREDIT HOUR(S): 2<br>PRE REQUISITE(S): NONE | 1. Perform the experiments correctly according to the lab sheet and recognize the methods used in the experiments. (P4, PLO4)<br>2. Prepare a proper technical report based on data from experiment. (P2, PLO5)<br>3. Demonstrate ability to lead a team to complete the assigned tasks or assigned project during practical work sessions (A3, PLO7) |

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| | **DJL5032**<br>**POWER PLANT ENGINEERING 2** | **POWER PLANT ENGINEERING 2** helps students to understand and comprehend in detail the working principle of the components' basic equipment and the additional equipment contains in a power plant and processing plant. The learning components cover functions and classification of the pump, compressed air plant, refrigeration and air conditioning, fuel and combustion and the nozzle.<br><br>CREDIT HOUR(S): 2<br>PRE REQUISITE(S): DJL3022 POWER PLANT ENGINEERING 1 | 1. Explain the fundamentals of rotating equipment and auxiliary system in power plants. (C2, PLO1)<br>2. Solve problem in power plant regarding to pump, compressed air plant, fuel and combustion, nozzle, steam turbine and air conditioning by using formulation and theoretical. (C4, PLO2)<br>3. Demonstrate continuous learning and information management skills while engaging in the new knowledge and case study in power plant. (A3, PLO11) |
| | **DJL6062**<br>**PLANT SERVICE DRAWING** | **PLANT SERVICES DRAWING** are planned so as the student shall acquire sufficient skill in various aspects such as background understanding in designing, developing plant layout and creating piping and instrumentation diagram, process flow diagram and electrical circuit diagram. This will emphasis knowledge and clear understanding of the design and engineering principles used in plant layout and piping design.<br><br>CREDIT(S): 2<br>PRE REQUISITE(S): NONE | 1. Identify fundamental principles and concepts used in plant services diagram. (C2, PLO1)<br>2. Construct the numerous drawings and projects using the commands of computer aided drafting design software. (P4, PLO4)<br>3. Propose equipment, instrumentation and process layout for plant applications. (A3, PLO9) |
| | **DJL5052**<br>**PLANT CONTROL SYSTEM 1** | **PLANT CONTROL SYSTEM 1** exposes students to the basic principles of equipment and control systems and also the process of inspection, maintenance, installing and measuring the equipment's system. The components of learning cover the basic terms of plant control, measurement of fluid pressure, measurements of liquid level, measurement of fluid flow and measurement of temperature.<br><br>CREDIT(S): 2<br>PRE REQUISITE (S): NONE | 1. Explain the fundamental of instrumentation, the static characteristics and measurement error in instrumentation. (C2, PLO1)<br>2. Apply the principle and working operation of specialized measurement system in plant applications for pressure, level, flow, and temperature measurement. (C3, PLO4)<br>3. Demonstrate social skills and responsibility while engaging in the new knowledge and skills to develop report and presentation. (A3, PLO10) |

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| | **DJJ5141 PROJECT 1** | **PROJECT 1** provides students with solid foundation on knowledge and skills in preparing project proposal, writing and presentation of proposal.<br><br>CREDIT(S): 1<br>PRE-REQUISITE(S): NONE | 1. Organize research or project systematically. (C5)<br>2. Demonstrate good communication skill of oral presentation in group. (A3)<br>3. Demonstrate continuous learning and information management skills while engaging in independent acquisition of new knowledge and skill to develop a project. (A3) |
| | **DJM3072 PROGGRAMMABLE LOGIC CONTROLLER** | **PROGGRAMMABLE LOGIC CONTROLLER (PLC)** provides knowledge regarding the concept and basic principle of automation systems as well as PLC. This course emphasizes on the use, design process, programming and maintenance method of automation systems as well as PLC. This course also provides knowledge and skill training to construct automation systems based on the use of PLC systems. | 1. Organize variant type of automation system achievable with proper PLC selection, maintenance and programming. (C5, PLO1)<br>2. Develop the PLC program based on the automation requirements. (P4, PLO4)<br>3. Systematize troubleshooting and maintenance of PLC system. (A4, PLO7) |
| | **DJJ5062 COMPUTER AIDED DESIGN2 (ELECTIVE)** | **COMPUTER AIDED DESIGN 2** exposes the students to learn the fundamental principles of 3D parametric part design and production-ready part drawings using 3D CAD software. Students will know the various method of creating a solid model using extrude, revolve, swept, assembly, simulation and animation. Hands-on exercises representing real-world, industry-specific design of mechanical engineering will also be covered in this course.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): DJJ2062 COMPUTER AIDED DESIGN 1 | 1. Apply the function of CAD commands in producing engineering drawing. (C3, PLO1)<br>2. Create drawing of mechanical component in 3D according to drawing standard. (P3, PLO2)<br>3. Demonstrate good written communication skill in group project report. (A3, PLO6) |
| | **DJJ6192 INDUSTRIAL MANAGEMENT (ELECTIVE)** | **INDUSTRIAL MANAGEMENT** provides students with a strong fundamental understanding of industrial management prospect and production system planning such as inventory, scheduling, production system operation, facilities, plan location, layout and line balancing. This course also provides knowledge in quality control and human resource management. | 1. Apply the basic concepts of industrial management system in Industry to solve related problems. (C3, PLO1)<br>2. Analyze problems related to industrial management. (C4, PLO2)<br>3. Demonstrate good written communication skills in case study on assigned topics in groups. (A3, PLO6) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| **5.** | **DUA6022**<br>**KOMUNIKASI DAN PENYIARAN ISLAM** | **KOMUNIKASI DAN PENYIARAN ISLAM** memfokuskan kepada penguasaan konsep, kemahiran komunikasi dan penyiaran islam bagi meningkatkan kefahaman pelajar secara holistik terhadap kursus ini.<br><br>KREDIT: 2<br>PRASYARAT: TIADA | 1. Menjelaskan konsep, bentuk komunikasi dan hubungannya dalam Islam. (C2 : LD1)<br>2. Menunjukkan kemahiran pengurusan komunikasi dalam bidang penyiaran Islam. (C3, A4 : LD1, LD5)<br>3. Menghubung kait isu-isu semasa dalam komunikasi dan penyiaran Islam. (C3, A3 : LD1, LD6) |
| | **DPB2012**<br>**ENTREPRENEURSHIP** | **ENTREPRENEURSHIP** focuses the principles and concept of entrepreneurship. This course concentrates on the systematic methods of getting business ideas. This course also prepares students on conducting online business using social media marketing. It also emphasizes a preparation of business plan and developing their entrepreneurial skills.<br><br>CREDIT(S): 2<br>PRE-REQUISITE(S): NONE | 1. Explain clearly the concept of entrepreneurship and process of developing an effective business.(C2, LD1)<br>2. Prepare completely a business plan according to standard format. (P2,LD2)<br>3. Build the online business presence using the social media marketing. (P3,LD2) (A4, LD7) |
| | **DJL6033**<br>**POWER PLANT ENGINEERING 3** | **POWER PLANT ENGINEERING 3** provides student to understand and comprehend in detail of the power generation in steam power plant, gas turbine plant and diesel power plant. Emphasis of the course is to determine components efficiency and the effect of additional equipment to the power generation efficiency. This course also covers the steam piping system as additional application for power generation.<br><br>CREDIT HOUR(S): 3<br>PRE REQUISITE(S): DJL5032 POWER PLANT ENGINEERING 2 | 1. Distinguish the applications, main components, layout and process of various types of power plant and refrigeration. (C4, PLO2)<br>2. Solve thermodynamics problem using formulation and theory in steam power plant, gas turbine power plant, standard air cycle, diesel power plant, refrigeration and heat transfer. (C4, PLO3)<br>3. Demonstrate continuous learning and information management skills while engaging in the new knowledge in power generation. (A3, PLO11) |
| | **DJL6053**<br>**PLANT CONTROL SYSTEM 2** | **PLANT CONTROL SYSTEM 2** provides knowledge on the basic of control system and the relevant general terminologies. It shall include representation of systems in block diagram, explaining the dynamic behavior of control systems and the behavior of control elements. Included also is classification of controller by types and modes. The student shall be further introduced to the complex control system. | 1. Distinguish the fundamental of control systems and their respective characteristics (C4, PLO1)<br>2. Construct block diagrams and derive mathematical models to represent the behavior of plant control system. (P4, PLO3)<br>3. Manipulate various types of control elements, controllers and complex control methodologies in order to perform corrective actions to minimize errors in control system. (P4, PLO4) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
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| | **DJJ6143 PROJECT 2** | **PROJECT 2** introduces the students to the concepts of conducting a design or case study. The students select a project, list the project's needs, the processes involved, cost estimation, project schedule by applying appropriate methodology in the project planning. It also involves project implementation, project report and presentation.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): DJJ5141 PROJECT 1 | 1. Develop creative solution to solve the problems in the project design or case study. (C5)<br>2. Organize the selected design or case study based on the project planning. (P5)<br>3. Demonstrate good communication skills of presentation in group. (A3)<br>4. Demonstrate ability to lead a team to complete assigned project during practical work sessions. (A3)<br>5. Demonstrate awareness of management, business practices and entrepreneurship related to product of project. (A3)<br>6. Demonstrate awareness of social responsibility in practical work procedure and practices. (A3) |
| | **DJJ5123 PNEUMATIC & HYDRAULICS (ELECTIVE)** | **PNEUMATICS & HYDRAULICS** provides knowledge and understanding to the importance of pneumatics and hydraulics circuits, equipment and design along with its usage in the industry.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Analyze the basic concept and function of pneumatics and hydraulics system. (C4,PLO2)<br>2. Construct pneumatic, electro-pneumatic and hydraulic circuit according to assigned tasks. (C5, PLO3 & P4,PLO4)<br>3. Demonstrate understanding of engineering norm and practices in pneumatics and hydraulics during practical work sessions. (A3, PLO8) |
| | **DJJ5133 ENGINEERING DESIGN (ELECTIVE)** | **ENGINEERING DESIGN** provides knowledge on basic engineering design. It emphasizes on mathematical analysis for simple component designs in engineering such as key, rivet and welding joint. It also provides knowledge on gear design and selection of bearing.<br><br>CREDIT(S): 3<br>PRE-REQUISITE(S): NONE | 1. Analyze well-defined the concept of design process and stress in an engineering product or component. (C4, PLO2)<br>2. Conduct investigations in the design of simple engineering components by using mathematical analysis, taking into consideration the safe load limitation. (C5, PLO3)<br>3. Demonstrate good written communication skills of case study in group, on assigned topic. (A3, PLO6) |

| SEM | COURSE | SYNOPSIS | COURSE LEARNING OUTCOMES (CLO) |
|---|---|---|---|
| 6 | **DUT40110 INDUSTRIAL TRAINING** | **INDUSTRIAL TRAINING** covers the basic knowledge and skills of the internship which students will undergo during the fourth semester of the Diploma program. This course provides exposure and experience to students in terms of technology literacy, effective communication, development of human capital, policies, procedures and regulations, professional perspective and reporting. This course will build enthusiasm and a proactive attitude in students and hence boost their confidence to become excellent trainees.<br><br>CREDIT( S ) : 10<br>PREREQUISITE : NONE | 1. Apply the technology studied<br>2. Practice effective communication<br>3. Demonstrate the development of human capital<br>4. Professionally comply with policies, procedures and rules of the organization<br>5. Produce report |

## 7.0 SPORTS & CO-CURRICULUM UNIT

The unit is responsible to oversee the implementation the sport and co-curriculum activities to fulfil their requirement for them to score a pass in co-curriculum activities before they are eligible to be awarded Polytechnic diploma.

Various co-curriculum units were set up to undertake the planning and implementation of activities for the students. The following are uniformed bodies, clubs and sports offered at the POLIMAS:

| CATEGORY | UNIT | OFFERED | |
|---|---|---|---|
| | | SEM 1 | SEM 2 |
| Uniformed Bodies | POLIMAS Malaysia Red Crescent Society | √ | √ |
| | Scouts | √ | √ |
| | Civil Defence (JPA-3) POLIMAS Unit | √ | √ |
| | POLIMAS Territorial Reserve Army Reg. 513 | √ | √ |
| | Fire Fighting Brigade | √ | √ |
| | Puteri Islam | √ | √ |
| | S. Johns Ambulance | √ | √ |
| Clubs | Computer | - | √ |
| | English Language | - | √ |
| | Consumers | - | √ |
| | Kelab Mesra Alam | - | √ |
| | Kelab Seni Suara (Nasyid) | - | √ |
| Sports | Taekwondo-Do | - | √ |
| | Badminton | - | √ |
| | Netball | - | √ |
| | Basketball | - | √ |
| | Football | - | √ |
| | Volleyball | - | √ |
| | Hockey | - | √ |
| | Athletics | - | √ |

| | UNIT | OFFERED | |
|---|---|---|---|
| | | SEM 1 | SEM 2 |
| | Table Tennis | - | √ |
| | Rugby | - | √ |
| | Sepak Takraw | - | √ |
| | Squash | - | √ |
| | Tennis | - | √ |
| | Softball | - | √ |
| | Seni Silat Gayong Pesaka Malaysia | - | √ |
| | Seni Silat Cekak Ustaz Hanafi | - | √ |
| | Archery | - | √ |
| | Kayak | - | √ |

## 8.0 SUPPORT SERVICES

### 8.1 STUDENT AFFAIRS DEPARTMENT (HEP)

| OFFICER IN CHARGE | • RESPONSIBILITY |
|---|---|
| AHMAD WALID B. MD YUSOF | • HEAD OF DEPARTMENT |
| ABDUL RAHMAN B. SAAD | • HEAD OF DISCIPLINE AND WELFARE UNIT |
| SAIFUL NIZAM B. SA'ARI | • STUDENT AFFAIRS (DISCIPLINE AND WELFARE) |
| MOHD HAFEEZ B. MOHD SOID | • STUDENT AFFAIRS (INTAKE & DATA) |
| ROSNITA BT HARUN | • LOANS AND SCHOLARSHIPS |

The Student Affairs Department basically has two main wings namely:

a) Admission and Data

The main function of this unit is to conduct the admission process efficiently and effectively. The process is conducted twice a year. Coordination and consultation with all the Head of Academic Departments is done in order to ensure the maximum enrolment of students.

b) Welfare and Discipline

The responsibilities of the Welfare and Discipline include the following:

- Scholarship and Education
- Insurance Policy
- Orientation Week
- Discipline
- Welfare
- Registration of Student Vehicles
- Students' Representative Council

Each student will be covered under the insurance scheme known as *Accident Takaful* and *Family Group Takaful*. Insurance Policy from Takaful Company has been selected to cover the scope and amount of coverage as follows:

| Company | Scope | Sum Assured |
|---|---|---|
| Takaful Malaysia<br><br>**Premium:**<br><br>RM15.00 yearly<br><br>Students are insured 24 hours during their studies in POLIMAS | Death caused by accident<br><br>Total Permanent/ Disablement<br><br>Burial expenses<br><br>Medical Expenses | RM20,000.00<br><br>RM20,000.00<br><br>RM1000.00<br><br>RM1000.00<br>@<br>RM40.00 perday |

Actions to be taken during the occurrence of accidents are as follows: -

a. Students can get treatment from government or private hospitals in case of accidents.

b. Academic Advisors / Coordinators of Welfare / Students / Students Next Kin of Guardians / Guardians must report the accident to the Student Affairs Department (HEP), PSAS within 14 days from the date of accident. HEP will notify Takaful within 30 days after the report is made for further actions to be taken.

c. In the case of the student's location is far from PSAS and he or she may want to apply for claims from insurance companies, PSAS will hand the "Insurance Claim Form" to the student / family / guardian for follow-up actions. The completed claim form and supporting documents can be delivered or mailed to HEP PSAS.

Documents that need to be attached with the claim form are: -

a. A copy of the identity card and student card

b. A copy of the police report / industry

c. A copy of driver's license

d. Doctor report / Original medical bills

e. A copy of discharge letter

f. A copy of the death certificate / post mortem

g. Pictures (scene location / physical)

## 8.2 EXAMINATION UNIT

Each Polytechnic Ministry of Education is responsible for providing guidance on learning, assessment, control and conduct of the examination. Certificate and Diploma to each student is subject to approval and confirmation of Board of Examination and Certificate / Diploma Polytechnic after students have passed all examinations and meet all the requirements of the course. For a polytechnic, Examination Unit is the unit where responsible for planning, managing and implementing all activities related to student assessment based on the guidelines and evaluation set.

Grading System:

| Marks | Grade Points | Grade | Status |
|---|---|---|---|
| 90-100 | 4.00 | A+ | Excellent |
| 80-89 | 4.00 | A | Excellent |
| 75-79 | 3.67 | A- | Distinction |
| 70-74 | 3.33 | B+ | Distinction |
| 65-69 | 3.00 | B | Distinction |
| 60-64 | 2.67 | B- | Passed |
| 55-59 | 2.33 | C+ | Passed |
| 50-54 | 2.00 | C | Passed |
| 47-49 | 1.67 | C- | Passed |
| 44-46 | 1.33 | D+ | Passed |
| 40-43 | 1.00 | D | Passed |
| 30-39 | 0.67 | E | Failed |
| 20-29 | 0.33 | E- | Failed |
| 0-19 | 0.00 | F | Failed |

Complete information about Examination Unit can be referred to *ARAHAN-ARAHAN PEPERIKSAAN DAN KAEDAH PENILAIAN.*

## 8.3 LIAISON & INDUSTRIAL TRAINING UNIT

The Liaison & Industrial Training Unit (UPLI) is responsible for managing students' industrial training affairs. Students will be assigned to a particular organization during their training period based on their respective fields of study.

The placement process is finalized before training commences. Students are constantly advised to maintain a high level of discipline. They should abide by the rules and regulations of both the polytechnic and organization. Organizations are advised to consult the polytechnic immediately if there are any disciplinary problems.

Complete information about Liaison & Industrial Training Unit can be referred to *PENGURUSAN DAN KAEDAH PENILAIAN LATIHAN INDUSTRI POLITEKNIK.*

## 8.4 LIBRARY UNIT

POLIMAS library provides academic resources and services to all students, staff and other members of POLIMAS community. The library provides quality and up to date information to everyone in terms of managing and providing access to information resources. Taking the role as a center of knowledge, the library acts as a catalyst and assist in the teaching and learning and research in the process of producing creative and innovative semi-professional.

Business Hour:

| | |
|---|---|
| Sunday-Wednesday | 8.30am – 4.45pm |
| Thursday | 8.30am – 3.15 pm |
| Friday, Saturday and Public Holiday | Closed |

## 8.5 PSYCHOLOGY, COUNSELING AND CAREER UNIT

The main objective of the Psychology, Counselling and Career Unit is to facilitate students' self-development by helping them make the most of their polytechnic experiences. This unit offers to help students in finding and searching for alternative ways to overcome their emotional and psychological difficulties in dealing with problem encountered during their course of study at the polytechnic, guiding students in their career planning as well as helping the acquire better access to the job market in the private and public sectors. The unit helps students to exercise self-determination, achieve and realize their potentials and become positive contributors to the society.

Psychology, Counselling and Career Unit is ready to guide and help students to overcome existing challenges in campus. It is hoped that through the counselling and consultation process offered by this unit, the students are able to achieve:

- Understanding of oneself
- Developing awareness ofself-potential
- Able to make wise decision
- Actively participate in academic and co-curriculum activities

## 8.6 HALLS OF RESIDENCE UNIT

The management and administration consist of two parts:

a) Hostel management manage the hostel building and equipment

b) Hostel resident management in-out management, welfare activities, discipline and the resident security.

About 1100 new students been offered to stay at hostel with ratio 550 boys and 550 girls.

All information about support services be referred to *BUKU PANDUAN DAN PERATURAN AM*.

**EDITORIAL COMMITTEES**

Advisor : Deputy Director of POLIMAS (Academic)

Chairman : Head of Department
Ir. Nik Ahmad Faris bin Nik Abdullah

Chief Editor : Nazri Bin Ahmad

Editor : Muhammad bin Abdullah